



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of January 3, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region VI: On December 14, 2010, Mr. Steven Acree (GWERD) and Dr. Daniel Pope (Shaw Environmental and Infrastructure, Inc) provided comments to Nancy Fagan (USEPA, Region 6) for the Interpretation of Available Contaminant & Geochemical Data, Myrtle Grove Site, Plaquemine, Louisiana. The review focused on data related to the effectiveness of natural attenuation processes (NA) at the site. The statistical screening tests were generally inconclusive due to the variability of the data and the low magnitude of any potential trends. Given the general contaminant concentration trends, it would be expected that future concentration changes would be slow, such that the contaminant plume may continue to persist for years or even decades. If, as it appears, natural attenuation of VC and DCE is slow, it is possible that these contaminants could be transported into new areas of the aquifer over time.

(11RC06-001)

(S. Acree (GWERD) 580-436-8609)

Technical Assistance to Region II: On December 29, 2010, Dr. Eva Davis (GWERD) provided comments to Judy Canova (South Carolina Department of Health & Environmental Control) of the Comparison of Electrical Resistance Heating and Thermal Conduction Heating for Remediation at the Former Philip Services Corporation Site, Rock Hill, South Carolina, prepared by URS Corporation (the document), and parts of the Draft Feasibility Study (FS) Report (February 2010) for the subject site. In general, the document comparing Electrical Resistance Heating (ERH) and Thermal Conduction Heating (TCH) overstates the differences between the two technologies as they may apply to this site. Both thermal technologies have been used successfully under buildings. For many sites, there is not a clear advantage of ERH or TCH for remediation of VOCs, and both technologies are applicable. It is common to solicit technical proposals and cost bids for either of the technologies, then to select the technology for a specific site that has the best value in terms of the technical approach and the costs. I recommend that the choice of a specific thermal technology to remediate this site not be made at this time, but that 'thermal remediation' in general be specified.

(Misc.)

(E. Davis (GWERD) 580-436-8548)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Wilkin, Richard T. (GWERD) and David A. Rogers (Corresponding author. Email: wilkin.rick@epa.gov). 2010. "Nickel sulfide formation at low temperature: initial precipitates, solubility and transformation products." *Environ. Chem.*, 7, 514-523. doi:10.1071/EN10076. www.publish.csiro.au/journals/env.

(R. Wilkin (GWERD) 580-436-8874)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of January 24, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region III: On January 4, 2011, Dr. John T. Wilson (GWERD) provided comments to RPM Josh Barber for the Preliminary Report-Evaluation of Remedial Technologies for Runway 8-26/Enterprise Avenue Landfill (EAL) prepared by Weston Solutions, Inc. 2 International Plaza, Ste. 540, Philadelphia, PA. The report is primarily organized to make a case for monitored natural attenuation as a remedy at the site. However, the number and location of monitoring wells is not adequate to evaluate the contribution of natural attenuation processes. The sparse distribution of sampling wells at the site makes it impossible to interpret natural attenuation processes. An adequate case that attenuation was protective could be made with a circle of monitoring wells that were spaced no more than 100 feet apart, which connected the existing WM sentinel wells.

(11-R03-002)

(J. Wilson (GWERD) 580-436-8534)

Technical Assistance to Region VII: On January 21, 2011, Dr. Scott Huling (GWERD) provided comments to CAO Ruby Crysler for the Harcros Chemicals, Inc. documents entitled “Long-Term Groundwater Monitoring Plan for 2040 West River Drive, Davenport, Iowa” (the plan), and “RCRA Corrective Action Environmental Indicator (EI) RCRA Info code (CA750) Migration of Contaminated Groundwater Under Control (revised 4/7/10)” (the RCRA Corrective Action Report). It appears that the specific ground water monitoring details associated with the in-situ chemical oxidation (ISCO) activities may not have been included in these two reports. Rather these details may be included in other reports associated with site remedial activities. It is recommended that future ISCO activities consider the possible use of injection wells installed in the source area(s) but transverse to the ground water plume. Recommendations also include the development of a specific remedial action targeting contaminants in the shallow bedrock.

(11RC07-001)

(S. Huling (GWERD) 580-436-8610)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Ford, Robert G. (LRPCD) and Richard T. Wilkin (GWERD). 2010. “Monitored Natural Attenuation of Inorganic Contaminants in Ground Water Volume 3 Assessment for Radionuclides Including Tritium, Radon, Strontium, Technetium, Uranium, Iodine, Radium, Thorium, Cesium, and Plutonium-Americium.” EPA/600/R-10/093.

(R. Ford (LRPCD) 513-569-7501)

(R. Wilkin (GWERD) 580-436-8874)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of February 21, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region IV: On January 27, 2011, Dr. Randall Ross (GWERD) and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) provided review comments to RPM Galo Jackson for the Draft Work Plan for the Development, Design, and Implementation of Conventional Treatment Measures to Enhance the Existing Caustic Brine Pool (CBP) Remedy at the LCP Chemicals Site, Brunswick, GA. The proposed overall approach toward meeting the RAOs and the metals removal objective appears acceptable. It combines the use of previously collected information with additional treatability studies focusing on addressing specific questions on CBP fluid treatment processes. The proposed approach of the draft work plan is based on promising preliminary treatability testing by WRI. The one significant deficiency in the draft work plan is that there is virtually no information on the treatment processes used by WRI. It is recommended that additional information on the actual treatment process(es) be provided and that the rationale for use of aerobic biological treatment be explained prior to moving forward with the proposed treatability testing.

(11-R04-003)

(R. Ross (GWERD) 580-436-8611)

Technical Assistance to Region VII: On February 18, 2011, Dr. Ann Keeley (GWERD) provided review comments to RPM Nancy Swyers for the "Hot Spot Test Evaluation Report" dated December 2010 for the Chemplex Site in Clinton, Iowa. The report clearly demonstrates that the investigators are aware of problems and are taking steps to rectify them as the work moves forward. For example, they are going back to the basics by rethinking injection locations, improving injection techniques, and examining well construction with respect to injection efficiencies. In this regard, all the corrective measures to improve the outcome of the selected enhance bioremediation technology will be implemented including the down-hole positioning of the packer, compatibility of the injected oil with the injection well(s) and surrounding formation in terms of volume, concentration, and viscosity; as well as the selection of the larger diameter wells for injections. The use of the combined remedial approach is encouraged to remove the initial mass using chemical oxidation, followed by enhanced bioremediation.

(11-R07-002)

(A. Keeley (GWERD) 580-436-8890)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Sivirichi, Gwendolyn M., Sujay S. Kaushal (Univ. of Maryland); Paul M. Mayer (GWERD); Claire Welty (Univ. of Maryland); Kenneth T. Belt (USDA Baltimore, MD); Tamara A. Newcomer, Katie D. Newcomb, and Melissa M. Grese (Univ. of Maryland). 2010. "Longitudinal variability in streamwater chemistry and carbon and nitrogen fluxes in restored and degraded urban stream networks." *Journal of Environmental Monitoring* 13:288-303 (DOI: 10.1039/c0em00055h). www.rsc.org/jem.

(P. Mayer (GWERD) 580-436-8647)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of March 7, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region VII: On February 25, 2011, Dr. Randall Ross (GWERD) and Dr. Milovan Beljin (Shaw Environmental & Infrastructure, Inc.) provided review comments to RPM Matthew Jefferson for the Conservation Chemical (CCC) Site, Kansas City, Missouri. The focus of the review was an evaluation of capture by the existing ground water extraction system and use of ground water modeling of the site. The hydraulic containment system at the CCC site relies on two extraction wells. For a more comprehensive approach to capture zone analysis, recently published guidelines by the USEPA should be consulted. Using the systematic approach, capture at the CCC site should be evaluated twice a year, during periods of high and low river stage. The ground water model should be updated as the new data become available. The existing extraction wells could be used for conducting aquifer pumping tests under various pumping regimes. The pumping test data could be used in verifying (validating) the model. Use of the groundwater model as a management tool is encouraged.

(11-R07-001)

(R. Ross (GWERD) 580-436-8611)

Technical Assistance to Region I: On February 28, 2011, EPA's Ground Water Technical Support Center and the Center for Subsurface Modeling Support (CSMoS) completed a technical review for RPM Elaine Stanley of the report *Final Modeling Analysis of Potential Environmental Impact of the Pilot CDF New Bedford Harbor Superfund Site* prepared by Jacobs Engineering Group for the U.S. Army Corps of Engineers New England District for the New Bedford Harbor Superfund Site, New Bedford, MA, dated October 2010. The review was conducted under the direction of Dr. David Burden (GWERD), by Mr Rob Earle and Dr. Noman Ahsanuzzaman (Shaw Environmental & Infrastructure, Inc.). The comments were focused on the hydrogeologic aspects of the modeling. It is recommended that the ground-water flow and PCB transport model undergo major adjustments before being used for any decision making.

(11-R01-005)

(D. Burden (GWERD) 580-436-8606)

Technical Assistance to Region I: On March 2, 2011, Dr. Scott Huling (GWERD) and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) provided review comments to RPM Joseph LeMay for several documents for the proposed full-scale anaerobic bioreactor (ABR) treatment system at the ReSolve Superfund Site, North Dartmouth, MA. These documents were prepared for the ReSolve Site Group by Weston Solutions, Inc. and their consultants. The documents describe the design of a system to treat extracted ground water contaminated by PCBs, chlorinated ethenes, and chlorinated ethanes. The ground water also contains some metals (notably iron). The technical review primarily focused on the broad issues related to design and implementation of the ABR system.

(11-R01-005)

(S. Huling (GWERD) 580-436-8610)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of March 14, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region IV: On March 2, 2011, Dr. Richard Wilkin (GWERD) provided review comments to RPM Beth Walden for the Draft Operations and Maintenance Plan for Ross Metals Operable Unit 2, Ross Metals Site, Rossville, Tennessee. Monitored Natural Attenuation (MNA) is targeted as a remedy for lead contamination in groundwater at the site. In general, work done at the site to assess MNA as a groundwater remedy should follow EPA's technical guidance on MNA for inorganics in groundwater as described in EPA reports published in 2007 (*Monitored Natural Attenuation of Inorganic Contaminants in Ground Water, Volume 1: Technical Basis for Assessment*, EPA/600/R-07/139 and *Monitored Natural Attenuation of Inorganic Contaminants in Ground Water, Volume 2: Assessment for Non-radionuclides Including Arsenic, Cadmium, Chromium, Copper, Lead, Nickel, Nitrate, Perchlorate, and Selenium*, EPA/600/R-07/140). Additional groundwater data are needed to assess concentration trends for lead across the site. After collecting these data, it is recommended that core samples be collected from a selected area of the site for additional analyses. These will provide supportive confirmation of any proposed attenuation mechanism and be used to assess the long-term stability of lead in the sequestered phase.

(11-R04-004)

(R. Wilkin (GWERD) 580-436-8874)

Technical Assistance to Region III: On March 8, 2011, EPA's Ground Water Technical Support Center completed a technical review for RPM Bruce Rundell of the *Treatability Pilot Study Report for Butz Landfill Site, Jackson Township, Monroe County, Pennsylvania* in regard to the study design, monitoring program, and pilot study effectiveness for the Butz Landfill Site (the Site). The review was conducted under the direction of Dr. David Burden (GWERD), by Dr. Daniel Pope (Shaw Environmental and Infrastructure, Inc.). Also, comments on materials that might be used for long-lasting carbon sources such as walnut and pecan shells (i.e., electron donors to stimulate reductive dechlorination of chlorinated solvents) were requested. In general, the Pilot Study seems to have been conducted primarily so as to provide useful information on the hydrogeologic nature and characteristics of the Site, and a basic understanding of how injected materials were distributed in the subsurface system. It would be useful to provide more details of the design rationale for the study approach as related to biological/geochemical issues.

(11-R03-003)

(D. Burden (GWERD) 580-436-8606)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Melanie D. Harrison (Univ. of Maryland, Baltimore, MD), Peter M. Groffman (Cary Institute of Ecosystems, Millbrook, NY), Paul M. Mayer (GWERD), Sujay S. Kaushal and Tamara A. Newcomer (Univ. of Maryland, College Park, MD). 2011. "Denitrification in Alluvial Wetlands in an Urban Landscape." *Journal of Environmental Quality*. March-April. 40:634-646([doi:10.2134/jeq2010.0335](https://doi.org/10.2134/jeq2010.0335)).

(Paul Mayer (GWERD) 580-436-8647)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of April 4, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region VII: On March 16, 2011, Dr. Ann Keeley (GWERD) provided review comments to RPM Daniel R. Gravatt for the Draft Quality Assurance Project Plan (QAPP) Continued Monitored Natural Attenuation Sampling for the Missouri Electric Works Superfund Site Cape Girardeau, Cape Girardeau County, Missouri. It is recommended that the QAPP include tables listing all the analytical parameters, analytical method requirements, quantitative acceptance criteria, and all referenced SOPs. Also, ensure that the QAPP identifies the project's technical and quality objectives, and that the intended measurement and data acquisition methods will satisfy the objectives. Furthermore, it should be stated that there is a process to identify any limitations on the use of the data.

(11-R07-003)

(A. Keeley (GWERD) 580-436-8890)

Technical Assistance to Region VI: On March 29, 2011, EPA's Ground Water Technical Support Center completed a technical review for RPM Michael Hebert of Appendix N of the report, "Focused Remedial Investigation Report, Building 3001 and Industrial Wastewater Treatment Plant Groundwater Operable Units" dated November 2010. Appendix N of this report contains a detailed discussion of the updated ground-water flow and transport model. The Groundwater Vistas model itself was also used for this review. The report and model were prepared by Science Applications International Corporation (SAIC) for the Tinker Air Force Base Environmental Management Division. The review was conducted under the direction of Dr. David Burden (GWERD), by Mr. Rob Earle and Dr. Noman Ahsanuzzaman (Shaw Environmental and Infrastructure, Inc.). It is recommended that the handling of the modeling boundary at the interface of the previous model domain and the PZ aquifer be re-examined. Attention should be given on assigning natural boundaries rather than artificially creating a recharge boundary to balance the water flux. It is also recommended that there be more explanation of individual mass balances, particle tracking analysis, and calibration criteria.

(11-R06-001)

(D. Burden (GWERD) 580-436-8606)

Technical Assistance to Region I: On March 30, 2011, under the direction of Mr. Steven Acree (GWERD), Dr. Bruce Pivetz (Shaw Environmental and Infrastructure, Inc.) provided review comments to RPM Karen Lumino for the Report of October 2010 Soil Data, Subsurface Investigation and Evaluation-Northwestern Well Area, Pine Street Canal Superfund Site, Burlington, Vermont. The purpose of this review was to identify if there were any potential concerns regarding a barrier wall that would need to be addressed in a forthcoming detailed design. The report is well-written and very complete in terms of all the supporting materials provided. The interpretations and conclusions appear valid. It is recommended that a detailed design be prepared for a vertical barrier and that the barrier include appropriately designed DNAPL monitoring and collection locations.

(11-R01-006)

(S. Acree (GWERD) 580-436-8609)



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of April 11, 2011**

TECHNICAL ASSISTANCE

Technical Assistance to Region IV: On March 23, 2011, Dr. John T. Wilson (GWERD) provided review comments to RPMs Felicia Barnett and Carolyn Callihan for stable isotope data collected on TCE, *cis*-DCE and vinyl chloride in ground water from the Mill Gap Road Groundwater Contamination Site, North Carolina. The isotope analyses were conducted to determine whether it might be possible to use isotope analyses to attribute the contamination in wells at the Mills Gap Site to ground water contamination that originated from the CTS of Asheville, Inc. Site (CTS Site) and/or to differentiate between separate or additional sources in the area of the contaminated private wells. The analysis follows procedures and processes as described in *A Guide for Assessing Biodegradation and Source Identification of Organic Ground Water Contaminants using Compound Specific Isotope Analysis* (CSIA), EPA 600/R-08/148 (2008).

(11-R04-005)

(J. Wilson (GWERD) 580-436-8534)

Technical Assistance to Regions II, III & VII: Technical support has been provided by Dr. Scott Huling (EPA R.S. Kerr Environmental Research Center (RSKERC), Ada, OK), Dr. Saebom Ko (NRC Post Doctoral Fellow), and Dr. Bruce Pivetz (Shaw Environmental & Infrastructure, Inc.) regarding ground water sampling at several hazardous waste sites where in-situ chemical oxidation (ISCO) has been performed. Based on recent research conducted at RSKERC, ground water sampling at ISCO sites may involve binary mixtures where both the oxidant and contaminants may co-exist in the same aqueous sample. Under this condition, (1) the quality of the ground water sample can be compromised due to oxidation reactions occurring in the ground water sample, and (2) the analytical instruments used to analyze the sample can potentially be damaged. Comments and recommendations were provided by the RSKERC staff to several EPA RPMs regarding the site specific impact of the binary mixtures and steps to mitigate the problems. The Project Managers and sites include Laura Johnson (EPA Region 3) Fike/Artel Superfund Site, Nitro, WV; Diana Cutt (EPA Region 2) Department of Defense, Area of Concern 1, Vieques, Puerto Rico; and Ruby Crysler (EPA Region 7), Hacros Chemical Site, Davenport, IA. Additionally, a draft Ground Water Forum Issue Paper has been prepared by the RSKERC staff and is under review that provides preservation guidelines to be used in the collection of binary mixture ground water samples at ISCO sites. The recommended guidelines can be used to minimize the impact of the oxidants (persulfate, permanganate) on both the quality of the ground water sample and the instruments used in the analysis of the sample.

(S. Huling (GWERD) 580-436-8610)

COMMUNITY OUTREACH

On March 25, 2011, the following individuals served as judges at the 2011 Oklahoma State Science and Engineering Fair at East Central University: Special Award Judge: Dr. Ann Keeley (GWERD); Category Judges: Dr. John T. Wilson, Dr. Mary Gonsoulin, Mr. Joe Williams, Dr. Ann Keeley (GWERD), Dr. Dennis Fine, Dr. Daniel Pope, and Dr. Charles Beall (Shaw Environmental Inc.).



HIGHLIGHTS

National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center

Status Report for the Week of April 18, 2009

TECHNICAL ASSISTANCE

Technical Assistance to the Office of Superfund Remediation & Technology Innovation: On April 7, 2011, Dr. Ann Keeley (GWERD) provided review comments to Linda Fiedler, Acting Chief of the Technology Assessment Branch, regarding the “*ITRC External Review Version of the Environmental Molecular Diagnostics (EMD) Fact Sheets [EMD-1]*” developed by the ITRC EMD Team dated January 4, 2011. The fact sheets are designed to provide basic information about EMDs applicable to environmental management, including site assessment, remediation, and closure. In that regard, the level of complexity of the documents is such that most environmental practitioners (Agency RPMs, consultants, and project managers) should be able to understand and apply the concepts. They also successfully serve their original intent of being developed as such that each individual fact sheet pertains to one method except for the Microbial Fingerprinting Methods and EMD Sampling Devices. There is an issue of the scarcity of clear governmental guidance documents addressing the selection criteria, sampling matrix soil versus water and QA/QC criteria. It is recommended that the fact sheets could benefit from the citation of additional references.

(Misc.)

(A. Keeley (GWERD) 580-436-8890)

Technical Assistance to Region VII: On April 13, 2011, technical review comments were provided by Dr. Ann Keeley (GWERD) and Dr. Bruce Pivetz (Shaw Environmental and Infrastructure, Inc.) for the monitored natural attenuation (MNA) portions of the *Corrective Measures Study, Hydrite Chemical Company, 2815 WCF&N Drive, Waterloo, Iowa* (the CMS), which was prepared by Environmental Resources Management, Inc. for the Hydrite Chemical Company dated February 18, 2011. This review focused on the overall technical adequacy of the evaluation of monitored natural attenuation as a potential component of the site remedy. The MNA report provides technically sound discussions and interpretations of MNA specific to the site. While there may always be some uncertainties in knowing what attenuation processes are occurring, at what locations, and at what rates, there do appear to be sufficient data and a variety of types of information to indicate that significant attenuation has been occurring at the site. The most uncertain or least supported aspect of the MNA report may be the relative significance of the impact of source reduction activities on the downgradient contaminant concentrations as opposed to the impact of natural attenuation. However, despite this uncertainty, there is sufficient evidence of a variety of effective attenuation processes for the downgradient ground-water contaminants, especially the destructive processes. This issue does not appear to impact the recommendations or conclusions of the CMS, MNA, or this review.

(11RC07-002)

(A. Keeley (GWERD) 580-436-8890)



HIGHLIGHTS

National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center
Status Report for the Week of May 9, 2011

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Technology transfer was provided by Dr. Scott Huling (EPA, R.S. Kerr Environmental Research Center, Ada, OK) involving a monograph entitled, “*In-situ Chemical Oxidation for Groundwater Remediation*.” This document has been published through the Department of Defense SERDP and ESTCP Remediation Technology monograph series. SERDP and ESTCP have joined to develop a series of monographs written by leading experts in each subject area. This monograph provides a review of the state-of-the-art of in-situ chemical oxidation and contains detailed information, data, and guidelines that will help decision makers, practicing engineers and hydrogeologists to select, design, and operate such systems, as well as researchers seeking to improve the current state of the art. For further information, contact Dr. Scott G. Huling (580-436-8610; huling.scott@epa.gov).

Jones, Edward H. (NRC, GWERD), David A. Reynolds (Golder Associates, West Perth, WA, Australia), A. Lynn Wood (GWERD), and David G. Thomas (Chevron Energy Technology, Perth WA, Australia). (2011). “*Use of Electrophoresis for Transporting Nano-Iron in Porous Media*.” *Ground Water*, Vol. 49, No. 2, pages 172-183.

Petri, Benjamin G. (Colorado School of Mines, Golden, CO), Richard J. Watts and Amy L. Teel (WA State Univ., Pullman, WA), Scott G. Huling (GWERD), and Richard A. Brown (Environmental Resources Management, Ewing, NJ). 2011. Chapter 2. Fundamentals of ISCO Using Hydrogen Peroxide. R.L. Siegrist et al. (eds), *In Situ Chemical Oxidation for Groundwater Remediation*, doi: 10.1007/978-1-4419-7826-4_5, © Springer Science+Business Media, LLC 2011.

Clayton, Wilson S. (Aquifer Solutions, Inc., Evergreen, CO), Benjamin G. Petri (Colorado School of Mines, Golden, CO), Scott G. Huling (GWERD). 2011. Chapter 5. Fundamentals of ISCO Using Ozone. R.L. Siegrist et al. (eds), *In Situ Chemical Oxidation for Groundwater Remediation*, doi: 10.1007/978-1-4419-7826-4_5, © Springer Science+Business Media, LLC 2011.



HIGHLIGHTS

**National Risk Management Research Laboratory
Ground Water and Ecosystems Restoration Division
Robert S. Kerr Environmental Research Center**

Status Report for the Week of May 16, 2011

TECHNICAL ASSISTANCE

Technical Assistance Region X: On May 5, 2011, EPA's Ground Water Technical Support Center completed a technical review for Kira Lynch, Howard Orlean, and Rene Fuentes (Region 10) of the Ground-Water Plume Management Strategy for the Wyckoff/Eagle Harbor Superfund Site, Bainbridge Island, Washington. The review was conducted under the direction of Dr. David Burden (GWERD), by Dr. Daniel Pope (Shaw Environmental and Infrastructure, Inc.). The Region requested assistance in evaluating a ground-water plume management strategy for the Wyckoff wood treatment site. The Region is re-evaluating the potential of doing aggressive source treatment in the upper aquifer (i.e., considering thermal remediation for removal of mobile NAPL) and desires assistance with designing a monitoring strategy for evaluating monitored natural attenuation (MNA) in the lower aquifer. In general, it appears that MNA could be a viable alternative remedy for the lower aquifer, in that the contaminants of interest (naphthalene, BaP, and PCP) are considered to be biodegradable, and are of course subject to dilution and dispersion, other components of the natural attenuation process. Therefore, MNA could reduce the concentrations of contaminants in the lower aquifer. There is some evidence that natural attenuation is currently reducing contaminant concentrations; however, several complicating aspects must be considered.

(11-R10-002)

(D. Burden (GWERD) 580-436-8606)

Technical Assistance to Region IX: On May 10, 2011, Mr. Steven Acree (GWERD) and Dr. Robert Ford (LRPCD) provided technical review comments to RPM Jere Johnson for the On-Site Monitor Well Installation Work Plan, Yerington Mine Site, Yerington, Nevada. In general, the work proposed under this plan appears to be appropriate. It is suggested that a longer default screen length for bedrock be considered for use in this portion of the investigation. The longer screen length may increase the probability of intercepting transmissive fracture zones. It is also recommended that the table and/or maps should be amended to clarify the proposed well locations. The default screen length could be modified at a given location based on data obtained during drilling.

(11-R09-001)

(S. Acree (GWERD) 580-436-8609)

(R. Ford (LRPCD) 513-569-7501)

SCIENTIFIC AND TECHNICAL PUBLICATIONS

Huling, Scott G. (GWERD), Saebom Ko (National Research Council, GWERD), and Bruce Pivetz (Shaw Environmental & Infrastructure, Inc., GWERD). 2011. *Groundwater Sampling at ISCO Sites: Binary Mixtures of Volatile Organic Compounds and Persulfate*. Ground Water Monitoring & Remediation 31, No. 2/Spring 2011/Pages 72-79.

(Scott G. Huling (GWERD) 580-436-8610)